

The Perception of the English Preposition “Through” by Japanese Learners of English

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Abstract

This study investigates how Japanese learners of English perceive the English preposition “through” within the framework of language transfer and prototype. Two tests were conducted in this study: the Production Test and the Semantic Relatedness Test. The participants were 33 Japanese university students studying English and 21 adult native English speakers. The Production Test was intended to elicit prototypical instances of the prepositions from both Japanese learners of English and native English speakers. The results of this test reveal that 1) instances denoting “movement in enclosure” are prototypical for both Japanese learners of English and native English speakers; 2) landmarks (i.e., objects of the preposition) are not necessarily entities with length, nor are they visibly bounded; and 3) Japanese language does not influence the Japanese participants’ production of instances. The Semantic Relatedness Test examined how Japanese learners and English speakers perceive an extension of the senses of the preposition. The results show that 1) Japanese learners put instances together more loosely in each of the clusters; 2) Japanese learners seem unaware of the mechanisms underlying the extension of the senses; and 3) the influence of Japanese is not seen in Japanese learners’ clustering of instances.

Keywords: language transfer, prototypical instances, prototypical senses, the preposition “through”

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1. Introduction

With the growing popularity of cognitive linguistics and corpus linguistics, more importance has recently been placed on lexis in the study of second language acquisition (SLA). As a result, lexical acquisition has been receiving increasing attention in this field (e.g., Harley, 1995; Henriksen and Haastrup, 1998). In fact, using findings obtained from cognitive linguistics, researchers have conducted several studies on the acquisition of English polysemous words by Japanese learners of English within the framework of language transfer and prototype theory (e.g., Cho, 2002; Hayashi, 2001, 2002, 2008a, 2008b; Shirai, 1995; Tanaka, Takahashi and Abe, 1989; Yamaoka 1995, 1996). The results of these studies agree that L1 transfer constrains the acquisition of English polysemous words by Japanese learners of English. However, there seems to be some disagreement on whether prototypicality correlates with the acquisition of English polysemous words.

The study reported here is another attempt to examine how Japanese learners of English acquire an English polysemous word. Here, the perception of the English preposition “through” by Japanese learners of English is examined. The rationale for investigating Japanese learners’ perception of this preposition is that in order to investigate its acquisition, it is necessary to know how learners understand each sense of the word and how their understanding differs from that of native English speakers.

2. Literature Review

This section describes previous experimental studies on the acquisition of English polysemous words by ESL/EFL learners, focusing on how they understand the extension of senses of words.

Kellerman (1978) produced a pioneering study within the framework of transfer and prototype, which claims that students’ perceptions of the distance between their native language and the target language affects transferability. In one of two experiments concerning learners’ intuitions about semantic distance, 50 native Dutch speakers were asked to sort into groups 17 Dutch sentences containing the word “breken” according to shared semantic features. On the basis of the number of times participants had placed any two sentences in the same group, a multidimensional scaling (MDS)ⁱ⁾ analysis was

i) Multidimensional scaling (MDS) is an exploratory technique used to visualize proximities between items in a low dimensional space. In order to fully represent relationships between items in MDS, it is necessary to have the same number of dimensions as items. For example, when eight items are to be judged for their similarity to each other, an 8-dimensional representation is needed. However, it is impossible to describe

employed to investigate the structure of the mental lexicon of “breken.” This procedure showed that participants understood different senses of the verb in two dimensions: concrete/abstract and core/non-core.

Imai (1993) investigated how the English verb “wear” is understood by native English speakers and Japanese university students studying English as a second language. She conducted two experiments. In the first one, participants were asked to sort 17 sentences containing the verb “wear” into groups depending on the sense of the verb. Data obtained from this experiment was analyzed using the MDS procedure. In the second experiment, participants were asked to judge the acceptability of 30 sentences containing “wear” using a 4-point scale. Of these, 13 were unconventional sentences. It was found that Japanese learners of English differed from native English speakers in their understanding of the various senses of the verb “wear.” While native speakers perceived the verb as orderly and structured, Japanese participants’ understanding of the verb was extremely poor. Moreover, the influence from Japanese was seen in their understanding of various senses of the verb.

Hayashi (2008a) examined how Japanese learners of English acquire the English verb “make” within the framework of language transfer and prototype. In the first of his three experiments, participants were asked to write one sentence using this verb. The results of this test revealed that instances occurring in the sentence pattern “Subject + *make* + Object” are thought to be prototypical both for Japanese learners of English and native English speakers. In addition, the Japanese verb “tsukuru” influences the Japanese learners’ production of prototypical instances of the verb. Hayashi’s second experiment examined the manner in which senses of the verb were organized in the minds of both Japanese learners and native English speakers. The results show that both the Japanese participants and native speakers seemed to consider the difference between the “causation” and “production” aspects of the verb. In addition, the Japanese participants’ overall network of the senses of the verb cannot be explained, which indicates that they are unaware of mechanisms underlying the extension of senses. The third experiment investigated how prototypicality and language transfer influence the acquisition of instances and senses of the verb. The results revealed that 1) the prototypical sense was not necessarily easy for Japanese learners of English to acquire; 2) the acceptability

an 8-dimensional representation. No more than three dimensions are recommended, with 2-dimensional representations being most highly recommended.

ratings of “make” were influenced by a transfer from the Japanese verb “tsukuru”; and 3) the influence of “tsukuru” seems to operate at the conceptual level as well.

Hayashi (2008b) investigated how Japanese learners of English acquire the English prepositions “at,” “in,” and “on.” He conducted three experiments. In the first one, participants were asked to write one sentence using each of the prepositions. The results revealed that most of the participants’ production of instances for all three prepositions showed strong preferences for “spatial” instances of the preposition. The second experiment examined the way senses of each preposition were organized in the minds of both Japanese learners and native English speakers. Participants were given pairs of sentences including each preposition and asked to rate the similarity in meaning of the preposition used in each pair. The results showed that both the Japanese participants and native English speakers considered attributes of the object of all three prepositions. In addition, an increase in learners’ proficiency level influenced the growth of lexical networks of the three prepositions differently. The third experiment investigated how prototypicality and language transfer influence the acquisition of instances and senses of the prepositions “at,” “in,” and “on.” The results revealed that prototypical instances forming the prototypical sense were not necessarily acquired consistently. Japanese participants with a higher proficiency performed better than those with a lower proficiency for all three prepositions. However, with an increase in proficiency level, their acquisition of prepositions differed with the preposition. This also shows that an increase in learners’ proficiency level influences their acquisition of these three prepositions differently.

Hayashi and Marks (2012) investigated how the verb “give” is understood by Japanese learners of English as a second language. Their study involved two experiments. The first one elicited prototypical instances for the verb “give” from both Japanese learners of English and native English speakers. The results revealed that instances occurring in the sentence pattern “GIVER + *give* + RECIPIENT + THING (concrete noun)” are considered prototypical for both participant groups. The second experiment examined the manner in which senses of the verb were organized. The results showed that native English speakers seemed to consider the meaning of the verb used in the instances when judging their similarity. However, Japanese learners looked more at the structures the instances took when clustering them. Furthermore, while the native English speakers’ cognitive framework for the semantic meanings of “give” can be more or less explained, the framework for Japanese learners is more difficult to determine. This may indicate that

Japanese learners lack an understanding of the deeper structures supporting the extension of the senses of the verb “give.”

In summary, I have described research projects investigating how ESL/EFL learners understand extension of senses of polysemous words. Although considerable research has already been conducted in the field of SLA, more studies that explore how the senses of words are organized in the minds of ESL/EFL learners are required. As stated in the Introduction, in order to fully investigate the acquisition of English prepositions by ESL/EFL learners, it is necessary to know how they understand each sense of a preposition and how their understanding differs from that of native speakers.

3. The Study

Two tests were used in this study: the Production Test and the Semantic Relatedness Test (Appendix A).

3.1 Production Test

This test aimed to elicit prototypical instances of the preposition “through” from Japanese learners of English and native English speakers. In this paper, I define a prototypical sense as comprising several prototypical instances. A prototypical instance is defined as what participants produce first when asked to write an example sentence using a given linguistic item. The logic behind this is that prototypical instances should be recalled more easily, and therefore be produced more readily (e.g., Rice, 1996). Participants were asked to write one sentence using the preposition “through.” Thus, eliciting prototypical instances served as a step to identify a prototypical sense and a lexical network for the preposition “through.”

3.1.1 Participants

Participants consisted of 33 Japanese learners of English and 21 native English speakers. Among the Japanese participants (JSs), 24 students majored in business administration at a Japanese private university and the remaining nine majored in a foreign language at a Japanese national university. The control group of 21 adult native English speakers (NSs) consisted of 17 faculty members at universities in Japan, one former professor at a British university, and three from various academic disciplines in Great Britain and Canada.

3.1.2 Materials and Methods

In this test, participants were asked to write one sentence using the preposition “through” (Appendix A). Both the JSs and the NSs took the test individually. Participants were advised not to use dictionaries.

3.1.3 Data Analysis

Collection and treatment of the data consisted of examining and categorizing sentences written by the participants. Sentences containing an incorrect use of the preposition were grouped into a separate category. JSs’ examples of the preposition were later compared with those of the NSs.

3.1.4 Results and Discussion

The two groups wrote 55 sentences (Appendix B). Although one NS wrote two, I used their first sentence for the reason I mentioned in Section 3.1.2. Sentences written by the two groups were categorized on the basis of the classification proposed by Dirven (1993) who characterizes spatial conceptualizations of 12 English prepositions in relation to several domains. These include (a) place, (b) time, (c) state, (d) area, (e) means/manner, (f) circumstance, and (g) cause/reason, which several of these prepositions share.

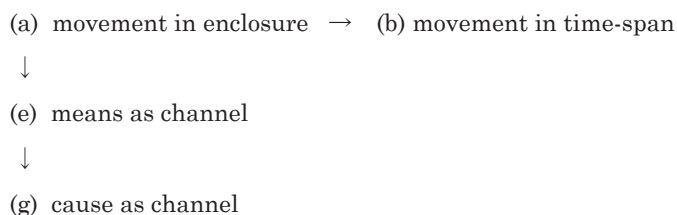


Figure 1. Radial network of extensions of *through* (Dirven, 1993, p. 82)

Table 1 indicates the categorization of sentences produced by both participant groups based on the patterns stated above. The category “Others” is provided for sentences that cannot be classified by the Types mentioned below or ungrammatical sentences produced by the JSs. In addition, sentences containing an error that makes them difficult to understand and sentences in which “through” is not used as an adverb are grouped into “Others.” For example, the sentence “*I returned home through strange path” is classified as Type 1, and the sentences “*We through him” and “*I decided to walk through. I was tired” are included in “Others.”

Finally, the difference between “means” and “cause” was judged by two of my native English-speaking colleagues, following Tyler and Evans (2003)ⁱⁱ⁾.

Table 1. Classification of Sentences Written using the Preposition “Through”

	Category					Total
	Type 1	Type 2	Type 3	Type 4	Others	
JSs (n = 33)	12	7	7	4	3	33
NSs (n = 21)	13	2	4	1	1	21

* Type 1 = movement in enclosure Type 2 = movement in time-span
 Type 3 = means as channel Type 4 = cause as channel

The results of tests by both the NSs and JSs are discussed. For each participant group, prototypical instances are initially determined, with descriptions and explanations of some characteristics found in the sentences to follow.

Sentences produced by the NSs are classified into all categories, with Type 1 sentences being the most numerous. Instances belonging to Type 1 are prototypical. In addition, a landmark (LM)ⁱⁱⁱ⁾, an object of the preposition, is not an entity with some length or a visibly enclosed entity. It can also be said that the instances in which the concept of a container is less noticeable are produced.

All sentences written by the JSs belong to Type 1, Type 2, Type 3, Type 4, and “Others.” The number of sentences in Type 1 is larger than in the other categories. Similar to the NSs, instances in Type 1 can be considered prototypical for the JSs, and an LM is not an entity with some length or a visibly enclosed entity. It should be noted that the JSs produced a higher rate of sentences belonging to Type 2, Type 3, and Type 4. This seems to contradict Tanaka (1983), who found that Japanese learners of English show a strong tendency to search for a one-to-one correspondence or direct translation equivalent in Japanese when interpreting spatial situations in English. This Production Test indicates no influence of Japanese.

The following observations can be made for the production of instances of the preposition “through” by both participant groups.

ii) Tyler and Evans (2003, p. 226) say, “While *through* can be paraphrased by *via* in a Means reading, *through* can be paraphrased by *because of* with a Cause meaning.”

iii) The semantics of English prepositions can be described in light of geometric relationships between a located object (trajector, or TR) and a reference object (landmark, or LM). The LM is the entity construed as the reference point, and the TR is the element located with respect to the LM (Lee, 2001, p. 3).

- 1) Instances occurring in the category “movement in enclosure” appear to be prototypical for both participant groups.
- 2) The LMs are not necessarily entities with length, nor are they visibly bounded.
- 3) Influence of the Japanese language is not found in the production of instances by Japanese participants.

3.2 Semantic Relatedness Test

This test was used to determine a prototypical sense. In addition, it investigated the ways in which English learners understood each sense of the preposition “through” and how their understanding differed from that of native speakers.

3.2.1 Participants

This test involved the same participants as the Production Test.

3.2.2 Materials and Methods

Ten sentences that included the preposition “through” were prepared for the test (Appendix A). An attempt was made in these sentences to cover the full range of uses for the preposition. Japanese instructions and translations of difficult words were given to the JSs.

Participants were asked to sort the sentences into groups depending on the meaning of the preposition used. They were also asked to describe the criteria they used to make each group and were allowed to make as many groups as they wanted. It was also possible to have only one group. Both the JSs and NSs took the test individually and were asked not to use dictionaries.

3.2.3 Data Analysis

Multidimensional scaling was used to analyze similarity judgments made by individual participants. In addition, a hierarchical cluster analysis^{iv)} was used to investigate participants’ perceptions of similar uses instantiated in the sentences. This was based on

iv) Cluster analysis is an analytical tool for solving data classification problems. Its objective is to sort items into clusters, the degree of association being strong between members of the same cluster and weak between members of different clusters.

the values given to each use in each dimension. In this cluster analysis, Ward’s method^{v)} was employed.

3.2.4 Results and Discussion

Sentences used in the test are provided in Table 2 for reference.

Table 2. Sentences used in the Semantic Relatedness Test

-
1. Are you through the book? ^{vi)}
 2. I got this apartment through a real estate agent.
 3. It rained through the whole morning.
 4. I’ve gone through a lot of problems this year.
 5. Look, there is a castle through the tunnel.
 6. She searched through the office for her lost wallet.
 7. The bird came in through the window.
 8. There’s a bumpy road through the wood.
 9. There’s no excuse if you failed through lack of effort.
 10. We are open Monday through Friday.
-

On the basis of the stress value and RSQ value produced from each matrix of each solution by the two groups of participants, a two-dimensional solution for MDS conceptualization of the preposition was adopted. As for the cluster analysis, a 3-cluster solution was implemented^{vii)}, which means that the preposition “through” is assumed by both groups to have three senses. Each cluster solution by the two groups is provided in Appendix C.

MDS representations of the preposition perceived by the two groups are shown below (Figures 2 and 3), followed by a discussion of the results of the NSs and JSs.

v) Ward’s method is one of the methods used in the cluster analysis. According to Aldenderfer and Blashfield (1984), this method is designed to optimize the minimum variance within clusters.

vi) Two NSs say that this sentence is ungrammatical, and that it should be “Are you through with the book?” However, some English dictionaries (e.g., Random House Webster’s College Dictionary, 2005; The World Book Dictionary, 1987) contain examples of this type of sentence. Therefore, this sentence has been used as is.

vii) One way of deciding the number of clusters is by determining the widest distance between the values where the number of clusters changes. However, some scholars state that deciding the number of clusters based on cluster analysis may also be left up to each researcher’s subjective judgment (e.g., Koyano, 1988).

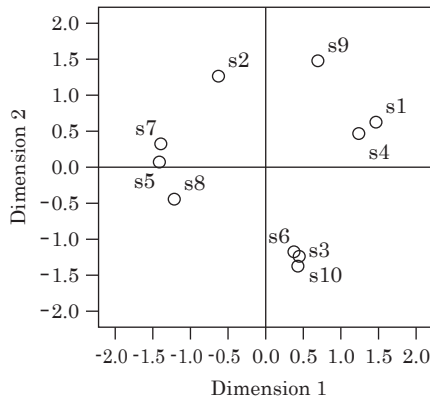


Figure 2. Results of JSs

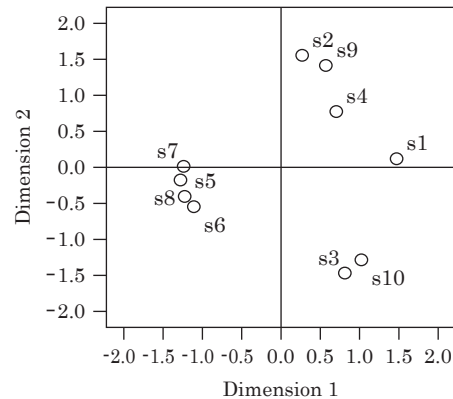


Figure 3. Results of NSs

Let us first look at the configuration of NSs (Figure 3). A quick glance reveals that at one end of the first dimension (X axis) are the instances “through the wood” (s8), “through the tunnel” (s5), “through the window” (s7), and “through the office” (s6). At the other end are “through the book” (s1), “through Friday” (s10), and “through the whole morning” (s3). Although the instance “through the book” is at one end, the first dimension can be characterized as representing a continuum between “place as path” and “time as path.” The interpretation of the second dimension can be characterized as representing a continuum between “time as path” and “means and cause,” with “through a real estate agent” (s2) and “through lack of effort” (s9) at one end and “through the whole morning” and “through Friday” at the other end.

The instances for the NSs are grouped into the following three clusters (senses) (Appendix C). It is useful to look at what instances make up each cluster (sense).

Cluster 1

This cluster comprises the instances of “through” in “through the wood” (s8), “through the tunnel” (s5), “through the window” (s7), and “through the office” (s6). What links these four instances? In this cluster, “through the tunnel” and “through the office” are first merged together, joined by “through the wood.” At the last stage, “through the window” is merged with the cluster comprising “through the tunnel,” “through the office,” and “through the wood” to form Cluster 1.

The clustering of “through the tunnel” and “through the office” can be explained as follows. Prototypical instances of “through” denote a situation when a trajector (TR) moves

physically from one end to the other. All the instances in this cluster imply such a movement. However, in “through the tunnel,” the TR does not actually move and is placed on the other end of the LM (e.g., Tyler and Evans, 2003). In the instance “through the office,” “in all places in ~” rather than “physical movement from one end to the other” is implied. Therefore, it seems that the instances in which physical movement is not clearly noticeable are clustered at an earlier stage.

This explanation is enforced by the fact that the instance “through the wood” joined the others at the next stage. This instance does not denote an actual physical movement, despite the fact that a bumpy road goes from one end to the other. Therefore, it can be said that although all instances in Cluster 1 imply travel or movement from one place to another, the degree of representation of actual physical movement varies from instance to instance, which affects this cluster’s formation.

Judging from results of the Production Test and other studies, this cluster can be said to represent the NS’s prototypical sense of the preposition “through.” Let us call this “Sense-Proto.”

Cluster 2

The instances of “through” in “through lack of effort” (s9) and “through a real estate agent” (s2) form this cluster. It is easy to explain why they are clustered. Both instances imply “cause” and “means,” respectively. As I described in 3.1.4, according to Dirven (1993), “cause” is extended from “means.” MDS linked them together at a very early stage.

We will call the sense represented by this cluster “Sense-Means/Cause.”

Cluster 3

This cluster comprises four instances. They are “through the book” (s1), “through Friday” (s10), “through the whole morning” (s3), and “through a lot of problems” (s4). The instances “through Friday” and “through the whole morning” are first merged into a bigger cluster. The instance “through a lot of problems” was added, followed by the inclusion of “through the book” to form Cluster 3.

Clearly, it is “a period of time from beginning to end” that links together “through Friday” and “through the whole morning.” However, it seems a bit difficult to explain why the instances “through a lot of problems” and “through the book” joined the cluster comprising “through Friday” and “through the whole morning.” The instances (s4) and (s1) can denote “action finished or action nearly completed.” Completing something is usually related to the progress of time. Thus, it might be safe to say that this relatedness to time

links these two instances with (s10) and (s3).

The sense represented by this cluster will be called “Sense-Time.”

Regarding relationships among the three senses, the following can be observed. Sense-Means/Cause and Sense-Time are closely connected. Sense-Proto is separate from both of them, which indicates that my native English-speaking participants think that neither Sense-Means/Cause nor Sense-Time is closely related to Sense-Proto. These relationships are unclear. One plausible explanation is that both of them are non-prototypical clusters. It is safe to say that my native English-speaking participants have metaphorically extended senses clearly delineated from the prototypical sense.

Regarding the results of the JSs (Figure 2), at one end of the first dimension are “through the tunnel” (s5), “through the window” (s7), and “through the wood” (s8). At the other end are “through the book” (s1) and “through a lot of problems” (s4). As described above, “through the tunnel,” “through the window,” and “through the wood” imply physical movement between two places, whereas “through the book” and “through a lot of problems” represent “action finished or action nearly completed.” Therefore, the first dimension can be characterized as representing a continuum between “place as path” and “things finished/completed.”

Concerning the second dimension, at one end are “through Friday” (s10), “through the whole morning” (s3), and “through the office” (s6). At the other end are “through lack of effort” (s9) and “through a real estate agent” (s2). Although the instance “through the office” is at one end, this dimension can be characterized as representing a continuum between “place as time” and “means and cause.”

In addition, when compared with the configuration of the NSs, instances seem to be sparsely clustered. The results from the JSs form the following three clusters (senses) (Appendix C).

Cluster 1

This cluster comprises “through the office” (s6), “through Friday” (s10), and “through the whole morning” (s3). The instances “through the office” and “through Friday” are first clustered, followed by the inclusion of “through the whole morning.” It is unclear what links together “through the office” and “through Friday.” The influence of the Japanese language does not seem to be operating in this cluster. The clustering of (s3) with the group comprising (s6) and (s10) at the next stage can be explained by the “temporal” elements found in “through Friday” and “through the whole morning.” In these two

instances, the JSs looked at the attribute of “a period of time from beginning to end.” Thus, it may be appropriate to think that “through the office” strays and is clustered with “through Friday.”

Let us call the sense represented by this cluster “Sense-Time.”

Cluster 2

This cluster comprises “through the book” (s1), “through a lot of problems” (s4), and “through a lack of effort” (s9). The instances “through the book” and “through a lot of problems” are first clustered, and then joined by “through a lack of effort” at a later stage. What links these three instances together? As mentioned earlier, the instances (s4) and (s1) can mean “action finished or action nearly completed.” The clustering of (s4) with (s1) can be explained in this light. However, the inclusion of “through a lack of effort” into the cluster comprising “through the book” and “through a lot of problems” is difficult to interpret. In the instance “through a lack of effort” denoting “cause,” no relation can be found among the instances (s9), (s1), and (s4). It may be appropriate to think that “through a lack of effort” strays, and is therefore included in this cluster.

The sense represented by this cluster is called “Sense-Finished/Completed.”

Cluster 3

This cluster comprises “through the tunnel” (s5), “through the window” (s7), “through the wood” (s8), and “through a real estate agent” (s2). The instances “through the tunnel” and “through the window” are first clustered, and then joined by “through the wood.” The instance “through a real estate agent” joins this cluster at a later stage. The clustering of the first three instances (s5), (s7), and (s8) is easily explained. Although the degree of representation of actual physical movement varies from instance to instance, these three instances imply physical movement between two places. The JSs tend to consider this attribute when they judge their similarities. However, it is difficult to explain why the instance “through a real estate agent” joins this cluster. This instance indicates “means” and should be merged with “through a lack of effort,” which denotes “cause.” Thus, it can be said that the sense denoting “means/cause” is not well established in the minds of JSs. In the clustering of (s2), with the group comprising (s5), (s7), and (s8), influence of the Japanese language cannot be detected. Again, it is appropriate to say that “through a real estate agent” strays and is included in this cluster.

We refer to the sense represented by this cluster as “Sense-Proto.”

With regard to relationships among the three senses, Sense-Time and Sense-Finished/

Completed are closely connected. Sense-Proto is separate from both of them, indicating that my Japanese participants think that neither Sense-Time nor Sense-Finished/Completed is closely related with Sense-Proto. The fact that Sense-Proto is separate from the other senses is shared by the Japanese and native English-speaking participants.

Summarizing the above results, the following observations can be made.

- 1) Clusters for the JSs are not densely grouped compared with those for the NSs.
- 2) Each NS cluster can be explained to a large extent, while some JS clusters cannot, which may indicate that the JSs are unaware of the mechanisms underlying the extension of senses.
- 3) Influence of the Japanese language is not found in the Japanese participants' clustering of the instances.

4. Summary

This study investigated how the preposition “through” is understood by Japanese learners of English as a second language within the framework of language transfer and prototype. For this purpose, the Production Test and Semantic Relatedness Test were conducted.

The Production Test elicited prototypical instances of the preposition “through” both from Japanese learners of English and native English speakers. This is a necessary step for identifying a prototypical sense and a lexical network for the preposition. The results of this test revealed that 1) instances occurring in the category “movement in enclosure” are prototypical for both native English speakers and Japanese learners of English; 2) the LMs are not necessarily entities with length, nor are they visibly bounded; and 3) influence of the Japanese language is not found in the Japanese participants' production of instances.

The Semantic Relatedness Test examined the manner in which senses of the preposition were organized in the minds of both Japanese learners and native English speakers. The results show that 1) Japanese learners put instances together more loosely in each cluster; 2) they seem to be unaware of the mechanisms underlying the extension of senses; and 3) the influence of Japanese is not detected in clustering of the instances by Japanese learners.

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Appendix A

Elicitation Test

1. The Production Test and the Semantic Relatedness Test

Please write one sentence using the preposition “through.”

2. The Semantic Relatedness Test

Below you will see 10 sentences containing the preposition “through.” Please sort the sentences into groups depending on the meaning of the preposition used. You can make as many groups as you wish. It is possible to have only one group. Then, please describe what criteria you used to make each group.

1. Are you through the book?
2. I got this apartment through a real estate agent.
3. It rained through the whole morning.
4. I’ve gone through a lot of problems this year.
5. Look, there is a castle through the tunnel.
6. She searched through the office for her lost wallet.
7. The bird came in through the window.
8. There’s a bumpy road through the wood.
9. There’s no excuse if you failed through lack of effort.
10. We are open Monday through Friday.

Appendix B

The Production Test

The number in () refers to the categorization.

Japanese Learners of English

(Mistakes have not been corrected.)

1. (1) The car passed through the tunnel.
2. (4) I was able to play the piano through the teacher.
3. (others) We through him.
4. (3) I learned English through this text.
5. (1) I went to the sea through the tunnel.
6. (3) I learned English through the English class.
7. (1) The river went through this road.
8. (2) She was watching TV through the whole evening.
9. (3) I learned a lot of culture through my trip around the world.
10. (1) I returned home through strange path.
11. (others) I decided to walk through. I was tired.
12. (1) I want to trip through the world.
13. (3) I learned speaking English through the English class.
14. (3) We met each other through this party.
15. (1) I got through the exam.
16. (1) I'm through the book.
17. (2) I've gone through tough times.
18. (4) Through the experience, I learned many things.
19. (1) I walked through the tunnel.
20. (3) We can know a lot of things through the Internet.
21. (2) I went through a hard time when I was in America.
22. (1) I got through the narrow road.
23. (others) That McDonald's Drive through is very nice.
24. (2) I have attended the all classes through the last year.
25. (1) I have gone through the task.
26. (1) I saw stars through the window.

- 27. (2) I have learned many things through this semester.
- 28. (3) I am growing through various experiences in my life.
- 29. (1) I looked the park through the window.
- 30. (4) I learned the importance of the existence of my mother through yesterday's experience.
- 31. (2) I couldn't get enough English skills through my high school life.
- 32. (2) I studied French through the summer.
- 33. (4) Through his words, I realized how happy he was.

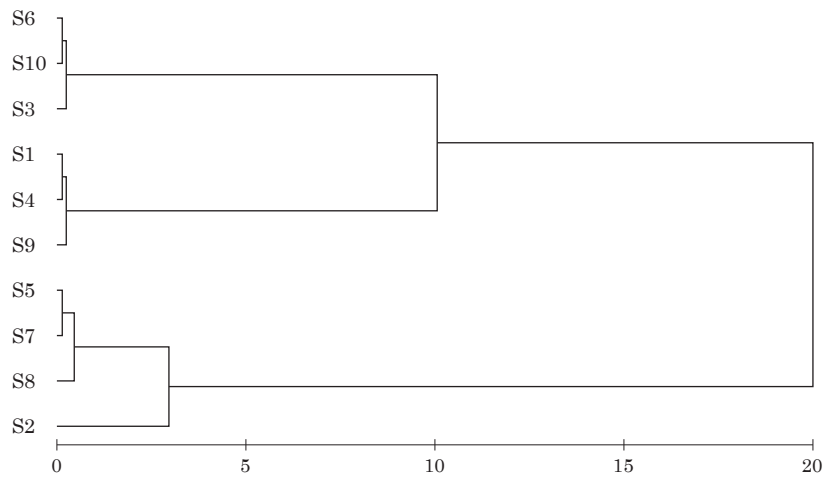
Native Speakers of English

- 1. (3) I buy my airline tickets through a travel agency.
- 2. (1) The dog jumped through the hoop.
- 3. (3) I solved the problem through use of a computer.
- 4. (1) My uncle drove through many states while he was traveling cross country.
- 5. (1) The truck drove through the tunnel.
- 6. (1) The dog ran through the field.
- 7. (4) I was able to pass my test through hard work.
- 8. (1) The window was so dirty that I could hardly see through it.
- 9. (1) I hope I can get through this stack of marking before the summer break begins!
- 10. (3) Through no fault of my own, I was late attending the meeting.
- 11. (1) Alice Through the Looking Glass is a good book.
- 12. (1) The girl went through the rabbit hole.
- 13. (1) The airplane traveled through the eye of the storm.
- 14. (2) Those who are truly wise have lived through a period of inquiry and hardship.
- 15. (1) You can watch TV when you are through with your homework.
- 16. (1) Driving through the rain can be a scary experience.
- 17. (2) I worked through the night to get ready for the meeting.
- 18. (others) I'm through with buying wines from this store.
- 19. (1) Sally sauntered through the isles.
- 20. (3) Operant conditioning is achieved through a process of repeated reward or punishment to embed or extinguish a habitual behavior.
- 21. (1) This summer, I will travel through Seattle on my way to Minneapolis.

Appendix C

Cluster Solution by the two groups

Japanese learners of English



Native speakers of English

